

CLAIMS

What is Claimed is:

Sub A² 1. A concentrated nitrogen and phosphorus fertilizer composition comprising, in combination:

an ammonium phosphite composition having a pH in solution with water in the range of about 5 to 8, a weight percent of nitrogen in the range of about 6 to 12, and a weight percent of phosphorus in the range of about 32 to 36 weight percent, said phosphorus comprising a phosphite ion in solution.

2. The fertilizer of claim 1 in combination with an ammonium phosphate compound comprising a source of phosphate ions in solution.

3. The fertilizer of claim 1 in combination with a substantially equal amount of ammonium phosphate.

4. The fertilizer of claim 1 in a water solution of 9.6 ± 0.6 weight percent nitrogen and 34 ± 2 weight percent P_2O_5 .

5. A nitrogen and phosphorus fertilizer composition comprising in combination:
a water based solution of about 50% by weight ammonium phosphate and about 50% by weight ammonium phosphite.

6. A nitrogen and phosphorus fertilizer composition comprising in combination a mixture of ammonium phosphate, phosphorous acid, ammonia and water adjusted to maintain pH in the range of about 5 to 8.

7. The composition of claim 6 adjusted to maintain pH in the range of about 5.5 to 6.5.

8. A nitrogen and phosphorous fertilizer composition comprising in combination a mixture of ammonia, phosphorus acid and water adjusted to maintain pH in the range of about 5 to 8.

9. The composition of claim 8 adjusted to maintain pH in the range of about 5.5 to 6.5.

10. A nitrogen and phosphorus fertilizer composition comprising, in combination a mixture of ammonium orthophosphate, ammonia, phosphorus acid and water adjusted to maintain pH in the range of about 5 to 8.

11. The composition of claim 10 adjusted to maintain pH in the range of 5.5 to 6.5

12. The composition of claims 6, 8, or 10 wherein the mixture is maintained at less than about 150°F.

13. A method for fertilization of plant material comprising the step of applying a fertilizer compound as set forth in any of claims 1-12.

14. A method of manufacture of a fertilizer composition comprising the steps of:

mixing water a source of nitrogen and phosphorus acid, and maintaining the temperature of the mixture at less than about 150°F and pH in the range of about 5 to 8.

15. The process of claim 14 wherein the nitrogen source is ammonia.

16. The process of claim 14 wherein the pH is in the range of about 5.5 to 6.5.

17. The process of claim 14 or 15 including the further step of mixing a compound taken from the group comprising ammonium phosphate, ammonium orthophosphate, ammonium polyphosphate, ammonium nitrate, analogs and mixtures thereof.

18. The process of claim 16 wherein the added compound contains the phosphate ion and the weight percent phosphorus from the added compound is about equal to the weight percentage of phosphorus from the phosphite.

19. A method of manufacture of a fertilizer composition having a nitrogen component and a phosphorus component comprising the steps of:

mixing in water at a temperature less than about 150°F and at a pH maintained in the range of about 5 to 8 ammonia, phosphorus acid and a phosphate composition taken from the group comprising ammonium phosphate, ammonium orthophosphate, ammonium polyphosphate, analogs, mixtures and derivatives thereof.

20. The process of claim 19 wherein the ammonia and phosphorus acid are combined to form phosphorus in the form of a phosphitic ion source in an amount about equal to the phosphorus from the group.

21. The process of claim 19 wherein the nominal composition of the fertilizer is 9.8-34-0.

22. The process of claim 19 wherein the nominal composition of the fertilizer is 9.6-34-0.

23. The process of claim 19 wherein the nominal composition of the fertilizer is 6.4-34-0.

24. The process of claim 19 wherein the nominal composition of the fertilizer is 8.8-29-0.

25. A method of manufacture of a fertilizer composition having a nitrogen component and a phosphorus component in the form of phosphite ions comprising the steps of:

mixing water with an acid taken from the group consisting of polyphosphorus acid, phosphorus acid, analogs, derivatives and mixtures thereof and a nitrogen source at a temperature below about 150°F and at a pH of about 5-8.

26. The method of claim 25 wherein ammonia is the nitrogen source.

27. The method of claim 26 wherein the weight percent of nitrogen is about 9.6 ± 0.4 and the weight percent of phosphite is about 34 ± 2.0 .

28. The method of claim 25 including the further step of mixing a compound taken from the group comprising ammonium nitrate, ammonium phosphate compounds and mixtures thereof.

29. A product made by the process of any of the claims 14-28.

30. A method of use of the product of claims 1-12 or 29 comprising the step of applying said product in liquid form to plants or soil as a fertilizer or fungicide, or both.

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